

ABSTRACT

The system in this invention is applicable to bi-directional communication over the electricity network between a head-end and a plurality of users, and permits the synchronization in time and frequency of multiple users in a multi-carrier OFDM communication system. It is characterized in that it consists of the generation of synchronisation sequences by means of two identical synchronization symbols, periodically transmitted in the downstream, from the head-end to the users to estimate and correct the sampling frequency and simultaneously estimate the moment in which each OFDM symbol commences.